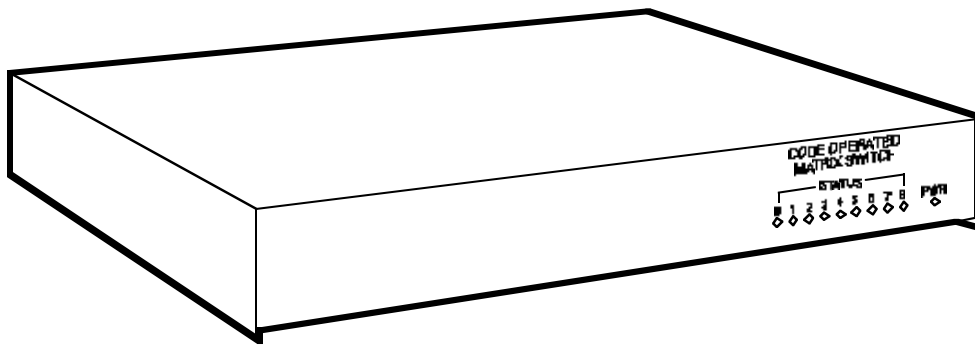# Code Operated Matrix Switch

Any-to-any switching without serial compatibility problems. This adaptable switch converts flow-control requirements, data formats, and data rates.

Switch up to nine serial devices—any device to any device—without extra conversion hardware or software.

Key Features

▶ *Any-port-to-any-port serial communication—no "master port" is needed.*

▶ *Configure each port independently, and set each port independently, including the DTE or DCE setting.*

▶ *Converts between data rates, data formats, and types of flow control.*

▶ *Up to two (base unit) or four (expanded) simultaneous connections are possible.*

▶ *All connections can be cleared simultaneously.*

▶ *Can be reset or restored to default settings remotely.*

Overview

What do you do if you have one or more PCs, a few RS-232 peripherals, and data that needs to flow between them, from Point A to Point B, or Point A to Point C, or sometimes even from Point D to Point E?

The Code Operated Matrix Switch (COMS) might be just what you need. It performs any-to-any switching between its five ports in response to ASCII-character-based commands. If you have more than five devices, you can add the 4-Port Expansion Board for a total of nine ports. Or you can even cascade COMSes.

It doesn't matter if your devices aren't absolutely compatible. Each port on the COMS can be independently configured for data rate, data format, flow control, and break detection. You can also independently set each port as DTE or DCE, so you can use straight-through-pinned cables to connect most devices.

By sending the proper commands, any port can connect to and disconnect from any other port, or (as a third party) make or break a connection between any two other ports. There can be as many simultaneous connections through the COMS as the number of ports will permit. On a base unit with five ports, two simultaneous connections are possible; on a unit with the Expansion Board installed, as many as four such connections are possible. (The COMS has a 31-KB buffer to keep data intact, even with four devices sending at once.)

In emergencies, or when John and Jane leave without releasing their peripherals, one command can break all existing connections.
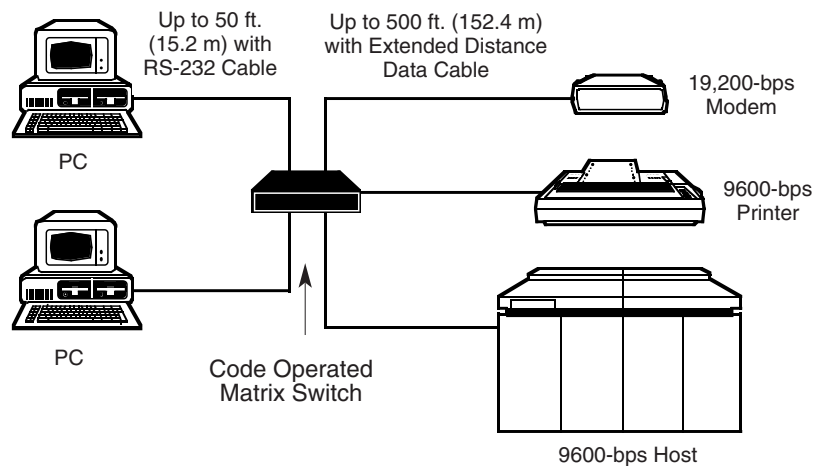
If you should ever have problems, another command resets the COMS. You can set the unit's DIP switches to clear or maintain existing connections when the unit is reset.

Typical Applications

During the day, one PC can receive orders through your modem while another directs an RS-232 industrial controller to fill the orders. At closing, the first PC can send reports to the printer while the second uses the modem to relay info to HQ.

Depending on the requirements of the job, each of your four PCs can print to any of your five serial printers.

Up to 50 ft. (15.2 m) with RS-232 Cable

Up to 500 ft. (152.4 m) with Extended Distance Data Cable

PC

19,200-bps Modem

9600-bps Printer

PC

Code Operated Matrix Switch

9600-bps Host

- The control sequence of the Code Operated Matrix Switch is a series of ASCII characters: a user-defined "attention string" from 1 to 8 characters long that prepares the unit to receive a command, followed by a "command sequence" from 1 to 3 characters long that tells the COMS what to do.

- Graphics data can include almost any combination of characters, including those of the COMS's control sequences. For this reason, you can configure any of the COMS's ports to make "transparent links" that ignore control sequences. These links can be broken from other ports or by sending a break.

- With COMS commands, you can save link states to NVRAM, see help and status screens, set port names, disconnect all active links, and perform remote resets and reloads.

- If the standard COMS settings don't meet the needs of your application, we might be able to custom-program it for you. Call for more information.

The complete package

- A Code Operated Matrix Switch, complete with 31 KB of buffer memory & 5 ports.

- A desktop power supply.

- A users' manual.

- A 5.25" diskette containing LinkUp software.

Additional equipment you might need

- A snap-in 4-Port Expansion Board for adding four additional devices to your switched network. You can install this circuit board in only minutes with just a screwdriver.

- An asynchronous RS-232 modem or line driver for long-distance control of your devices.

- RS-232 cable.

- AC and data-line surge protectors.

- A country-specific power cord or adapter for operating the COMS outside of North America.

- Communications software.

Specifications

Compliance — FCC Part 15 Class A, DOC Class/MDC classe A

Interface — EIA RS-232/ITU-TSS V.24; each port can be set independently as DTE or DCE

Protocol — Asynchronous

Code Set — ASCII

Data Format — 7 or 8 data bits with even, odd, or no parity (user-selectable); 1 stop bit (fixed)

Flow Control — Hardware (DTR/ CTS) or software (X-ON/ X-OFF), user-selectable

Operation — Full duplex

Data Rate — 19,200, 9600, 4800 2400, 1200, 600, 300, or 110 bps

Maximum Distance — 15.2 m to any attached device using standard cables, or 152.4 m using Extended Distance Data Cables

Internal Memory — 32 KB RAM including 31-KB buffer; NVRAM for link-state storage

User Controls — ASCII chars.; (7) Internal 8-pos. DIP switches: (2) for system options, (5 or 9*) for port options; (5 or 9*) internal jumpers for DTE/DCE

Diagnostics — Various self-tests

Indicators — (10) Front-mounted

LEDs: (1) Power and (9) Status

Connectors — (5 or 9*) Rear-mounted DB25 female

Leads Supported — 1 through 8, 20, and 22

Power — Through nondetach-able desktop power supply: SW590A-R2: 115 VAC, 60 Hz; SW590AE-R2: 230 VAC, 50 Hz

MTBF — 20,000 hours (16,000 hours with Expansion Board)

Temperature Tolerance — Operating: 0 to 45° C Storage: –20 to 70° C

Humidity Tolerance — 0 to 95% noncondensing

Enclosure — Steel

Size — 5.8H x 30.5W x 28.3D cm

Weight — Base unit plus power supply: 4.4 kg; Expansion Board: 0.3 kg

* 1 for each basic or expanded port

Ordering Information